

BS
end
end
C,

a data line on the first substrate, the data line being perpendicular to the gate line;
a common electrode formed of a transparent conductive material on the first substrate;
a thin film transistor having a gate electrode, an active layer, a source electrode and a drain electrode formed on the first substrate;
a black matrix covering the active layer; and
a liquid crystal layer interposed between the first and second substrates; and
a pixel electrode formed of an opaque metal contacting the drain electrode of the thin film transistor, wherein the common electrode is alternating with and being parallel to the pixel electrode.

REMARKS

By this Amendment, Applicant corrects Figs. 1-8, and cancels claim 1, and amends claims 2-4, 7-10, 12, 17 and 35. Thus, claims 2-38 are pending in the present application. Claims 1-38 stand rejected by the Office Action of November 4, 2002. Reexamination and reconsideration of the application, in view of the above-corrections and amendments is respectfully requested.

Claims 12-16 are rejected under 35 U.S.C. § 112 first paragraph, as containing subject matter which is not enabled.

Specifically, as to claim 12, the Office Action asserts that the recitation "the device of claim 1, further comprising a gate-insulating layer over the pixel electrode" is not illustrated and or described within the specification. Accordingly, Applicant amends claims 12 to recite "over the gate line" to obviate the rejection. Furthermore, and in view of the rejection of claims 13-16, which depend from base claim 12, the amendment to base claim 12 will also obviate the rejection of claims 13-16. Accordingly, Applicant respectfully requests the withdrawal of the rejection of claims 12-16 under § 112, first paragraph.

Claims 1, 2, 4, 5, 7, 10, 11, 17, 18 and 33 are rejected under 35 U.S.C. § 103(a) as

being unpatentable over applicants related art in view of U.S. Patent No. 6,362,858 to Jeon et al. (hereinafter the '858 patent); 3, 6 and 34 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's background section in view of the '858 patent as applied to claims 1, 4 and 17 above in view of U.S. Patent No. 6,278,502 to Colgan et al. (hereinafter the '502 patent); claims 8, 9 and 13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the Applicant's related art, as applied to claims 1 and 17 above, in view of U.S. Patent Application Publication No. US 2002-0008824 (hereinafter Pub 824); claims 19, 23-25 and 27-30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's related art background, as applied to claims 1 and 17 above, in view of U.S. Patent No. 6,219,125 to Ishikura et al. (hereinafter the '125 patent); claim 26 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's related art in view of the '858 patent and U.S. Patent No. 6,094,250 to Choi et al. (hereinafter the '250 patent) as applied to claim 23 above and further in view of the '502 patent; claim 31 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's related art in view of the '858 patent and the '125 patent, as applied to claim 28 above, and further in view of the '502 patent; claims 20, 21, and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's related art as applied to claims 1 and 17 above, in view of the '250 patent; 35-38 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's related art in view of the '858 patent and U.S. Patent No. 6,356,328 to Shin et al. (hereinafter the '328 patent); and claims 36 and 37 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's related art in view of the '858 and '328 patents, as applied to claim 35 above, and further in view of U.S. Patent No. 6,049,365 to Nakashima (hereinafter the '365 patent). Claim 1 is cancelled, and renders moot those rejections based upon claim 1. Claims 2, 3, 4, 7, 8, 9, 10, 12, 17 and 35 are amended. Applicant respectfully requests reconsideration in view of the foregoing amendments and following remarks.

Claims 2-38 are allowable over the cited references in that each of these claims recites a combination of elements including, for example, the common electrode is formed on the substrate like a gate line, as recited in amended claim 4, corresponding to cancelled claim 1; and similarly with independent claim 17, wherein the common electrode is alternating with and being parallel to the pixel electrode, as in independent claim 35. None of the cited references including the '858 patent, the '250 patent, the '365 patent, the '824 Patent Publication, the '125 patent, the '502 patent and the '328 patent, singly or in combination, teaches or suggests at least this feature

of the claimed invention. Accordingly, Applicant respectfully submits that independent claims 4, 17 and 35, and claims 2-16, 18-34 and 36-38, which depend therefrom, are allowable over the cited references. Thus, Applicant respectfully submits that independent claims 4, 17, and 35 and claims 2-16, 18-34 and 36-38, which depend there from, are allowable over the cited references.


Applicant believes the foregoing amendments place the application in condition for allowance and early, favorable action is respectfully solicited.

Should the Examiner deem that a telephone conference would further the prosecution of this application; the Examiner is invited to call the undersigned attorney at (202) 496-7500.

If these papers are not considered timely filed by the U.S. Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. § 1.136, and any additional fees required under 37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to Deposit Account No. 50-0911.

Dated: January 30, 2003

Respectfully submitted,

By 
Rebecca Goldman Rudich
Registration No.: 41,786
MCKENNA LONG & ALDRIDGE LLP
1900 K Street, N.W.
Washington, DC 20006
(202) 496-7500
Attorneys for Applicant

Attachment:

Version with Markings to Showing Changes Made to the Claims
Request for Approval of Drawing Corrections



30827

PATENT TRADEMARK OFFICE

DC:116962.1

VERSION WITH MARKINGS TO SHOW CHANGES MADE TO THE CLAIMS

2. (Amended) The device of claim [1] 4, wherein the transparent conductive material includes indium tin oxide (ITO).

3. (Amended) The device of claim [1] 4, wherein the transparent conductive material includes indium zinc oxide (IZO).

4. (Amended) An in-plane switching liquid crystal display device comprising:
a gate line on a first substrate;
a data line on the first substrate, the data line being perpendicular to the gate line;
a common line on the first substrate, the common line being parallel with the gate line
and being formed of a metal;
a pixel electrode and a common electrode on the first substrate, the pixel and common
electrodes being formed of a transparent conductive material; and
a liquid crystal layer between the first and second substrates, wherein the common
electrode is alternating with and being parallel to the pixel electrode; and [The device of claim 1,
further comprising:]
an auxiliary common line on the first substrate, the auxiliary common line being
connected with the common electrode, wherein the common electrode is formed on the substrate
like the gate line.

7. (Amended) The device of claim [1] 4, wherein the common [lines include] line
includes a material selected from a group consisting of chromium (Cr), aluminum (Al),
aluminum alloy (Al alloy), molybdenum (Mo), Tantalum (Ta), tungsten (W), antimony (Sb), and
an alloy thereof.

8. (Amended) The device of claim [1] 4, further comprising a first alignment layer on the first substrate.

9. (Amended) The device of claim [1] 8, wherein the first alignment layer is selected from a group consisting of polyimide and photo-alignment material.

10. (Amended) The device of claim [1] 4, further comprising a thin film transistor at an intersection of the gate and data lines.

12. (Amended) The device of claim [1] 4, further comprising a gate-insulating layer over the [pixel electrode] gate line.

17. (Twice Amended) An in-plane switching Liquid Crystal Display (LCD) device, comprising:

a first substrate and a second substrate

a gate line on the first substrate;

a metal common line on the first substrate, the common line parallel to the gate line.

a data line on the first substrate, the data line being perpendicular to the gate line;

a common electrode on the first substrate;

a thin film transistor having a gate electrode, a source electrode and a drain electrode formed on the first substrate;

a liquid crystal layer interposed between the first and second substrates;

a pixel electrode contacting the drain electrode of the thin film transistor; and

wherein, the pixel and common electrodes are formed of a transparent conductive material and the common electrode is [alternating with and being parallel to the pixel electrode] formed on the substrate like the gate line.

35. (Twice Amended) An in-plane switching Liquid Crystal Display (LCD) device, comprising:

- a first substrate and a second substrate;
- a gate line on the first substrate;
- a metal common line on the first substrate, the common line parallel to the gate line.
- a data line on the first substrate, the data line being perpendicular to the gate line;
- a common electrode formed of a transparent conductive material on the first substrate;
- a thin film transistor having a gate electrode, an active layer, a source electrode and a drain electrode formed on the first substrate;
- a black matrix covering the active layer; and
- a liquid crystal layer interposed between the first and second substrates; and
- a pixel electrode formed of an opaque metal contacting the drain electrode of the thin film transistor, wherein the common electrode is alternating with and being parallel to the pixel electrode.